

# Protecting You and Your Family

Nuclear power plants use the heat generated by splitting atoms to power generators, which produce electricity. The construction and operation of these facilities are closely monitored and regulated by the Nuclear Regulatory Commission. **While personnel at these plants take every reasonable precaution to prevent accidents, and ensure the security of the facility, it is always best to prepare ahead of time in case of an accident or terrorist attack.**

While there are no nuclear power plants in Indiana, Hoosiers in the northern part of the state are within the Emergency Planning Zones of plants in Illinois and Michigan.

## What is radiation?

**Radiation is a form of energy that is present all around us.**

Some types of radiation have more energy than others. Most (80%) of our exposure to radiation comes from natural sources found in the Earth's native materials and in rays from the sun. The final 20% of exposure comes from man-made sources, such as: microwave ovens, television, X-ray imaging, and other medical diagnostics and treatments. Radiation can affect the body in a number of ways, and the adverse health effects from exposure may not be apparent for many years.

## Exposure vs. Contamination

It's the difference between being or having been near radiation versus carrying it around with you.

**Exposure** occurs when you are in close proximity to radiation. For example, when a person has an x-ray, he or she is exposed to radiation. Once the x-ray is over, you are no longer exposed and you can't expose anyone else to radiation.

**Contamination** means you are carrying the radiation with you. If you are contaminated, particles of radioactive material (such as dust or residue) are on your skin or inside your body through a break in your skin, being inhaled, swallowed, etc. Until the radioactive particles are washed away or removed, you are being continually exposed and have the potential to expose anyone near you.



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## Radiological Emergency Preparedness Program



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# Radiation Emergency Preparedness

## All-Hazards Emergency Preparedness

Emergency management officials recommend an **all-hazards approach** to emergency preparedness, which means making **preparations to deal with all kinds of emergency situations**. Assembling an emergency preparedness kit, with essential items such as food, water, and life sustaining medications, a flashlight, and a portable radio, will provide you with the tools you need during a variety of emergencies, **including a radiation emergency**. You should also plan ahead of time how you will communicate with family and loved ones, if you are separated during a radiation emergency. It is also important to know where you will go, and how you will get there if you are advised to evacuate during an emergency.



## Who Should Prepare for a Radiation Emergency?

**The answer is everyone!** Regardless of where you live, you should be prepared to respond appropriately during a radiation emergency. Preparing for a radiation emergency will also help you be prepared for many other types of disasters like flooding, tornadoes or ice storms.

However, due to their proximity to out-of-state nuclear power plants, residents in northwest Indiana should especially be prepared for a radiation emergency.

Elkhart, Jasper, Kosciusko, LaGrange, Lake, LaPorte, Marshall, Newton, Porter, St. Joseph, and Starke Counties.



## During a Radiation Emergency

After a release of radioactive materials, local authorities will monitor the levels of radiation and determine what protective actions to take. **The most appropriate action will depend on the situation. Tune to the local emergency response network or news station for information and instructions during an emergency.**

If a radiation emergency involves the release of large amounts of radioactive material, you may be advised to “shelter-in-place” (which means to stay in your home or office), or you may be advised to move to another location. If you are advised to shelter-in-place, you should: turn off fans, air conditioners, forced-air heating units that bring in fresh air from the outside, close fireplace dampers, and only use units to re-circulate air that is already in the building.

If you are advised to evacuate, follow the directions that your local officials provide. Leave the area as quickly and orderly as possible.

## Limit Contamination

Since radiation cannot be seen, smelled, felt, or tasted, people at the site of an incident will not necessarily know whether they have been contaminated with radioactive materials. You can take the following steps to limit your contamination.

1. **Get out of the immediate area quickly.** Go inside the nearest, safe building, or to an area to which you are directed by law enforcement or health officials.
2. **Remove the outer layer of your clothing.** If radioactive material is on your clothes, getting it away from you will greatly reduce the external contamination, and decrease the risk of internal contamination. It will also reduce the length of time that you are exposed to radiation.
3. If possible, **place the clothing in a plastic bag, or leave it in an out-of-the-way area**, such as the corner of a room. Keep people away from it to reduce their exposure to radiation. Keep cuts and abrasions covered when handling contaminated items to avoid getting radioactive material in them.
4. **Wash all of the exposed parts of your body** with lots of soap and lukewarm water to remove contamination. This process is called decontamination. Try to avoid spreading contamination to parts of the body that may not be contaminated, such as areas that were covered with clothing.
5. After authorities determine that internal contamination may have occurred, you may be advised to take medication to counteract the radioactive material in your body.

## Potassium Iodide

**Potassium iodide (KI) should only be taken when directed by emergency response or public health organizations, within your area, after a radiation emergency involving the release of radioactive iodine, such as an accident at a nuclear power plant, or the explosion of a nuclear bomb.** A “dirty bomb” most likely will *not* contain radioactive iodine. A person who is internally contaminated with radioactive iodine may experience thyroid disease later in life. KI only protects the thyroid gland and does not provide protection from any other radiation exposure. Some people are allergic to iodine and should not take KI. Check with your doctor about any concerns you have about potassium iodide.